

subject to the parking brake requirements of FMVSS No. 571.105 (S5.2) must be equipped with a parking brake system that meets the requirements of paragraph (c) of this section.

(b) *Air-braked power units manufactured on or after March 1, 1975, and air-braked trailers manufactured on or after January 1, 1975.* Each air-braked bus, truck and truck tractor manufactured on and after March 1, 1975, and each air-braked trailer except an agricultural commodity trailer, converter dolly, heavy hauler trailer or pulpwood trailer, shall be equipped with a parking brake system as required by FMVSS No. 121 (S5.6) in effect at the time of manufacture. The parking brake shall be capable of holding the vehicle or combination of vehicles stationary under any condition of loading in which it is found on a public road (free of ice and snow). An agricultural commodity trailer, heavy hauler or pulpwood trailer shall carry sufficient chocking blocks to prevent movement when parked.

(c) *Vehicles not subject to FMVSS Nos. 105 and 121 on the date of manufacture.*

(1) Each singly driven motor vehicle not subject to parking brake requirements of FMVSS Nos. 105 or 121 at the time of manufacture, and every combination of motor vehicles must be equipped with a parking brake system adequate to hold the vehicle or combination on any grade on which it is operated, under any condition of loading in which it is found on a public road (free of ice and snow).

(2) The parking brake system shall, at all times, be capable of being applied by either the driver's muscular effort or by spring action. If other energy is used to apply the parking brake, there must be an accumulation of that energy isolated from any common source and used exclusively for the operation of the parking brake.

Exception: This paragraph shall not be applicable to air-applied, mechanically-held parking brake systems which meet the parking brake requirements of FMVSS No. 121 (S5.6).

(3) The parking brake system shall be held in the applied position by energy other than fluid pressure, air pressure, or electric energy. The parking brake system shall not be capable of being re-

leased unless adequate energy is available to immediately reapply the parking brake with the required effectiveness.

[70 FR 48048, Aug. 15, 2005]

§ 393.42 Brakes required on all wheels.

(a) Every commercial motor vehicle shall be equipped with brakes acting on all wheels.

(b) *Exception.* (1) Trucks or truck tractors having three or more axles and manufactured before July 25, 1980, are not required to have brakes on the front wheels. However, these vehicles must meet the requirements of § 393.52.

(2) Motor vehicles being towed in a driveaway-towaway operation are not required to have operative brakes provided the combination of vehicles meets the requirements of § 393.52. This exception is not applicable to:

(i) Any motor vehicle towed by means of a tow-bar when another motor vehicle is full-mounted on the towed vehicle; and

(ii) Any combination of motor vehicles utilizing three or more saddle-mounts.

(3) Any semitrailer or pole trailer (laden or unladen) with a gross weight of 1,361 kg (3,000 pounds) or less which is subject to this part is not required to be equipped with brakes if the axle weight of the towed vehicle does not exceed 40 percent of the sum of the axle weights of the towing vehicle.

(4) Any full trailer or four-wheel pole trailer (laden or unladen) with a gross weight of 1,361 kg (3,000 pounds) or less which is subject to this part is not required to be equipped with brakes if the sum of the axle weights of the towed vehicle does not exceed 40 percent of the sum of the axle weights of the towing vehicle.

(5) Brakes are not required on the steering axle of a three-axle dolly which is steered by a co-driver.

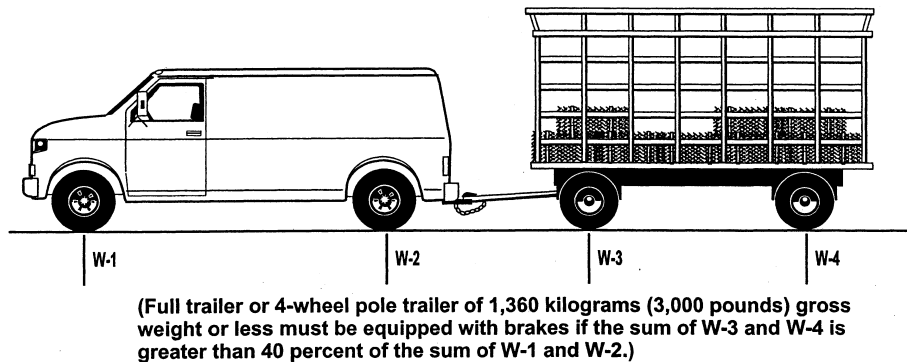
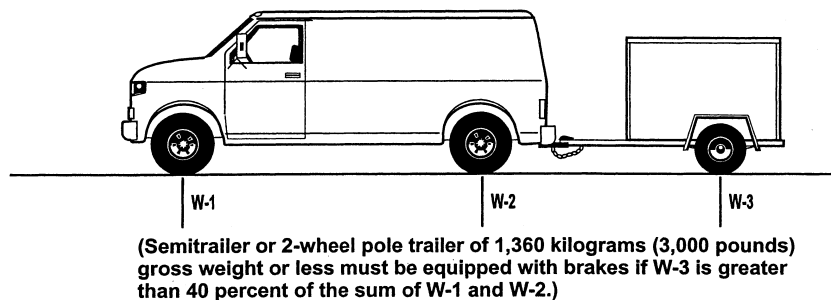
(6) Loaded housemoving dollies, specialized trailers and dollies used to transport industrial furnaces, reactors, and similar motor vehicles are not required to be equipped with brakes, provided the speed at which the combination of vehicles will be operated does not exceed 32 km/hour (20 mph) and brakes on the combination of vehicles

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are capable of stopping the combination within 12.2 meters (40 feet) from the speed at which the vehicle is being operated or 32 km/hour (20 mph), whichever is less.

Figure 22 - Illustrations of Brake Requirements for Light-Duty Trailers in § 393.42



[52 FR 2803, Jan. 27, 1987, as amended at 53 FR 49398, Dec. 7, 1988; 54 FR 48617, Nov. 24, 1989; 59 FR 25574, May 17, 1994; 61 FR 1843, Jan. 24, 1996; 70 FR 48049, Aug. 15, 2005]

EFFECTIVE DATE NOTE: At 76 FR 56321, Sept. 13, 2011, §393.42 was amended by revising paragraphs (a) and (b)(2), effective October 13, 2011. For the convenience of the user, the revised text is set forth as follows:

§ 393.42 Brakes required on all wheels.

(a) Every commercial motor vehicle shall be equipped with brakes acting on all wheels. This requirement also applies to certain motor vehicles being towed in a driveaway-towaway operation, as follows:

(1) Any motor vehicle towed by means of a tow-bar when another motor vehicle is full-mounted on the towed vehicle; and

(2) Any saddle-mount configuration with a fullmount.

(b) * * *

(2) Motor vehicles being towed in a driveaway-towaway operation (including the last truck of triple saddle-mount combinations (see §393.71(a)(3)) are not required to

have operative brakes provided the combination of vehicles meets the requirements of § 393.52.

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§ 393.43 Breakaway and emergency braking.

(a) *Towing vehicle protection system.* Every motor vehicle, if used to tow a trailer equipped with brakes, shall be equipped with a means for providing that in the case of a breakaway of the trailer, the service brakes on the towing vehicle will be capable of stopping the towing vehicle. For air braked towing units, the tractor protection valve or similar device shall operate automatically when the air pressure on the towing vehicle is between 138 kPa and 310 kPa (20 psi and 45 psi).

(b) *Emergency brake requirements, air brakes.* Every truck or truck tractor equipped with air brakes, when used for towing other vehicles equipped with air brakes, shall be equipped with two means of activating the emergency features of the trailer brakes. One of these means shall operate automatically in the event of reduction of the towing vehicle air supply to a fixed pressure which shall not be lower than 20 pounds per square inch nor higher than 45 pounds per square inch. The other means shall be a manually controlled device readily operable by a person seated in the driving seat. Its emergency position or method of operation shall be clearly indicated. In no instance may the manual means be so arranged as to permit its use to prevent operation of the automatic means. The automatic and manual means required by this section may be, but are not required to be, separate.

(c) *Emergency brake requirements, vacuum brakes.* Every truck tractor and truck when used for towing other vehicles equipped with vacuum brakes, shall have, in addition to the single control required by § 393.49 to operate all brakes of the combination, a second manual control device which can be used to operate the brakes on the towed vehicles in emergencies. Such second control shall be independent of brake air, hydraulic, and other pressure, and independent of other controls, unless the braking system be so

arranged that failure of the pressure on which the second control depends will cause the towed vehicle brakes to be applied automatically. The second control is not required by this rule to provide modulated or graduated braking.

(d) *Breakaway braking requirements for trailers.* Every trailer required to be equipped with brakes shall have brakes which apply automatically and immediately upon breakaway from the towing vehicle. With the exception of trailers having three or more axles, all brakes with which the trailer is required to be equipped must be applied upon breakaway from the towing vehicle. The brakes must remain in the applied position for at least 15 minutes.

(e) *Emergency valves.* Air brake systems installed on towed vehicles shall be so designed, by the use of "no-bleed-back" relay emergency valves or equivalent devices, that the supply reservoir used to provide air for brakes shall be safeguarded against backflow of air to the towing vehicle upon reduction of the towing vehicle air pressure.

(f) *Exception.* The requirements of paragraphs (b), (c) and (d) of this section shall not be applicable to commercial motor vehicles being transported in driveaway-towaway operations.

[53 FR 49384, Dec. 7, 1988, as amended at 70 FR 48050, Aug. 15, 2005]

§ 393.44 Front brake lines, protection.

On every bus, if equipped with air brakes, the braking system shall be so constructed that in the event any brake line to any of the front wheels is broken, the driver can apply the brakes on the rear wheels despite such breakage. The means used to apply the brakes may be located forward of the driver's seat as long as it can be operated manually by the driver when the driver is properly restrained by any seat belt assembly provided for use. Every bus shall meet this requirement or comply with the regulations in effect at the time of its manufacture.

[53 FR 49400, Dec. 7, 1988]

§ 393.45 Brake tubing and hoses; hose assemblies and end fittings.

(a) *General construction requirements for tubing and hoses, assemblies, and end fittings.* All brake tubing and hoses,